Module 2: Workflow management and platform capabilities

2.1 Targeting activities in workflows

These activities let you build one or more targets by defining sets and splitting or combining these sets using intersection, union, or exclusion operations.

- **Query**: lets you run a query. Refer to Creating a query.
- **Incremental query**: lets you perform a query and plan its execution. Refer to the Incremental query section.
- **Read list**: lets you use data contained in a list. Refer to the Using data from a list: Read list section.
- **Union**: lets you group the result of several activities into a single target. Refer to the Union section.
- **Intersection**: lets you extract only the population with the same inbound activity results. Refer to the Intersection section.
- **Exclusion**: lets you create a target based on a main target from which one or more other targets are extracted. Refer to the Exclusion section.
- **Split**: lets you split a target into several subsets. Refer to the Split section.
- **Cells**: provides a view of the various subsets in the form of data columns, and facilitates the manipulation of these subsets when there are many of them. For more on this, refer to the Cells section.
- **Offers by cell**: lets you link different offers to each subset of a population. Refer to the Offers by cell section.
- **Survey answers**: lets you recover information collected during a survey. For more on this, refer to this section.
- **Delivery outline**: lets you add a delivery outline. Refer to the Delivery outline section.
- **Enrichment**: lets you add columns to a working table or workflow. Refer to the Enrichment section.
- **Edit schema**: lets you transform, standardize, and if necessary enrich data. For more on this, refer to the Edit schema section.
- **Offer engine**: lets you call the Interaction offer engine in a workflow. Refer to the Offer engine section.
- **Deduplication**: lets you remove duplicates from inbound activities. Refer to the Deduplication section.
- **Change dimension**: lets you change the targeting dimension during the workflow construction cycle. Refer to the Change dimension section.
- **Subscription services**: lets manage target subscriptions and unsubscriptions to an information service. Refer to the Subscription Services section.
- **List update**: records the result of inbound activities in a list. Refer to the List update section.

- **Update data**: lets you massively update the data in the database. Refer to the Update data section.
- **CRM connector**: lets you configure the synchronization between Adobe Campaign and a CRM. Refer to the CRM Connector section.
- **Change data source**: lets you change the data source of a workflow **Working table**. This provides more flexibility to manage data across different data sources such as FDA, FFDA and local database. Refer to the CRM Connector section.

2.2 Flow control activities in workflows

The following activities are database activities: Their main task is to coordinate the other activities.

- **Start and End**: allow you to show the start and end points of a workflow. Refer to Start and end.
- **Fork**: allow you to activate all outbound transitions. Refer to the Fork section.
- **Appointment**: lets you wait for several tasks started at the same time to be completed before proceeding. Refer to the Fork section.
- **Scheduler**: lets you define a workflow execution schedule. Refer to Scheduler.
- **Test**: enables a transition based on a test result. Refer to Test.
- **Wait**: enables the outbound transition after a given time limit. Refer to Wait.
- **Time constraint**: lets you pause a task for a set period. Refer to Time constraint.
- **Sub-workflow**: lets you execute another workflow. Refer to Sub-workflow.
- **Jumps**: lets you implement transitions without links. Refer to Jump (start point and end point).
- **External signal**: lets you enable the outbound transition after receiving an external signal. Refer to the External signal section.
- **Approval**: lets you send an email to an operator or a group of operators and wait for approval to continue with the execution. Refer to the Approval section.
- **Alert**: lets you send a warning to an operator or group of operators. Refer to the Alert section.
- **Task**: lets you configure task execution. Refer to the Task section.

2.3 Action activities in workflows

- **Delivery**: lets you configure a delivery action. Refer to the Delivery section.
- **Delivery control**: lets you start, pause or stop a delivery. Refer to the Delivery control section.
- **Continuous delivery**: lets you start a delivery from the scenario specified in the activity. Refer to the Continuous delivery section.
- **Recurring delivery**: lets you configure a delivery template occurrence within a campaign. Refer to Recurring delivery.

- **Cross-channel deliveries**: lets you configure a delivery on the corresponding channel. Refer to the Cross-channel deliveries section.
- **Local approval**: lets you perform approvals and targeting notifications within a distributed marketing context (optional module). Refer to Local approval.
- **Data loading (RDBMS)**: lets you access an external database to get data. Refer to the Data loading (RDBMS) section.
- **Loading (SOAP)**: allows you to collect data via an SOAP call. Refer to Loading (SOAP).
- **Data loading (file)**: lets you access an external data source to use its data. Refer to the Data loading (file) section.
- **Content management**: lets you create or customize content. Refer to the Content Management section.
- **Extraction (file)**: lets you extract data from a table in a file. Refer to the Extraction (file) section.
- **SQL code and JavaScript code**: executes the SQL script or JavaScript specified in the activity. Refer to SQL code and JavaScript code.
- **SQL Data Management**: lets you write your own SQL queries to create and populate work tables. Refer to SQL Data Management.
- **nlserver module**: starts an nlserver module with its arguments. Refer to Nlserver module.
- **Update aggregate**: lets you select the aggregate update mode (full or partial). Refer to Update aggregate.

2.4 Workflow properties

Execution tab

The **Execution** tab of the **Properties** window in a workflow is broken down into 3 sections:
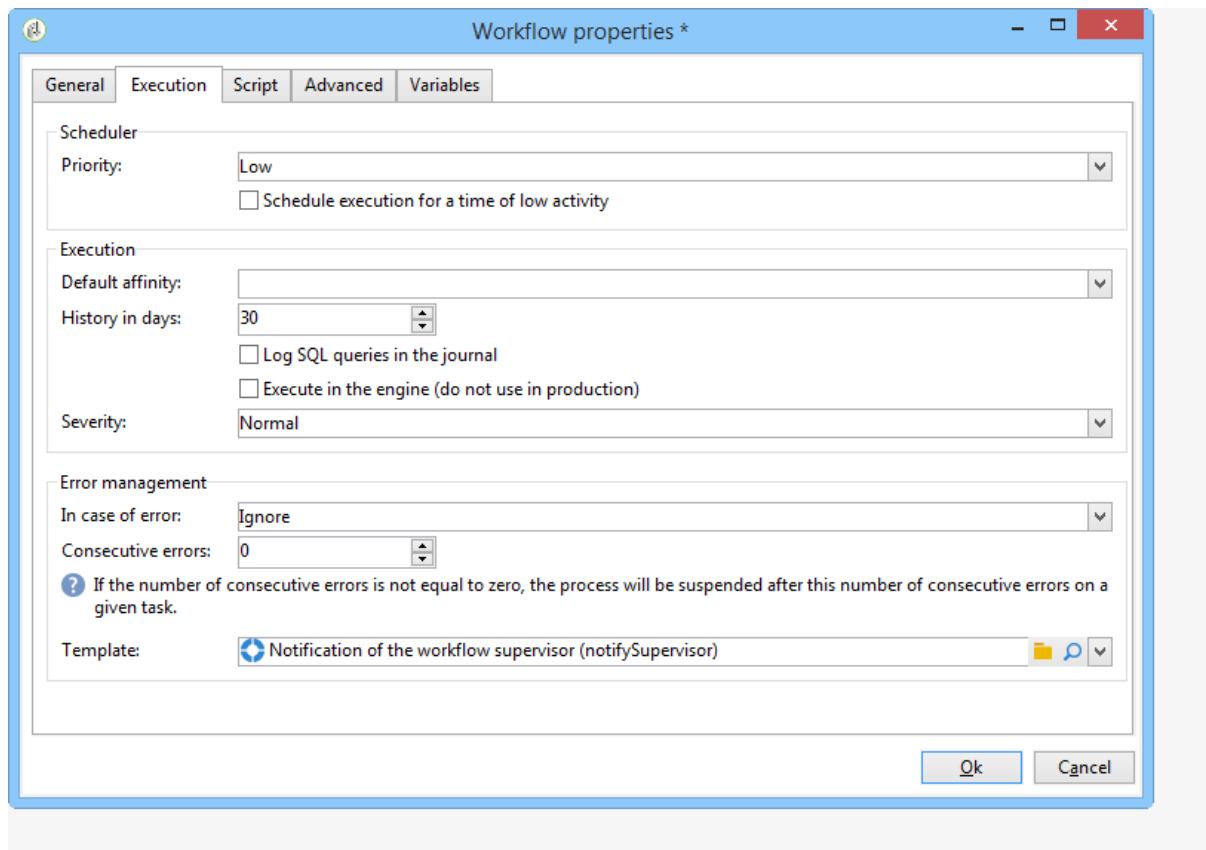
Scheduler

This section is only displayed in campaign workflows.

- **Priority**

  The workflow engine processes the workflows to be executed based on the priority criterion defined in this field. For instance, all workflows with an **Average** priority will be executed before those with a **Low** priority.

- **Schedule execution for a time of low activity**

  This option postpones workflow start to a less busy period. Some workflows can be costly in terms of resources for the database engine. We recommend scheduling execution for a time of low activity (at night for instance). Low activity periods are defined in the **Processes on campaigns** technical workflow.

Execution

- **Default affinity**

  If your installation includes several workflow servers, use this field to choose the machine which the workflow will be executed on. If the value defined in this field doesn't exist on any server, the workflow will remain pending.

 Refer to this [Campaign Classic v7 installation guide](#).

- **History in days**

  The work tables of the database keep a history of executions (tasks, events, log). Here you can define the number of days to be archived for this workflow: the cleanup process will delete the oldest archives once a day. If the value in this field is zero, the archive will never be deleted.

- **Log SQL queries in the journal**

  This functionality is reserved for advanced users. It concerns workflows that contain targeting activities (query, union, intersection, etc.). When this option is checked, the SQL queries sent to the database during workflow execution are displayed in Adobe Campaign: this means you can analyze them to optimize queries or diagnose issues.

  Queries are displayed in an **SQL logs** tab which is added to the workflow (except campaign workflows) and to the **Properties** activity when the option is enabled. The **Audit** tab also includes SQL queries.
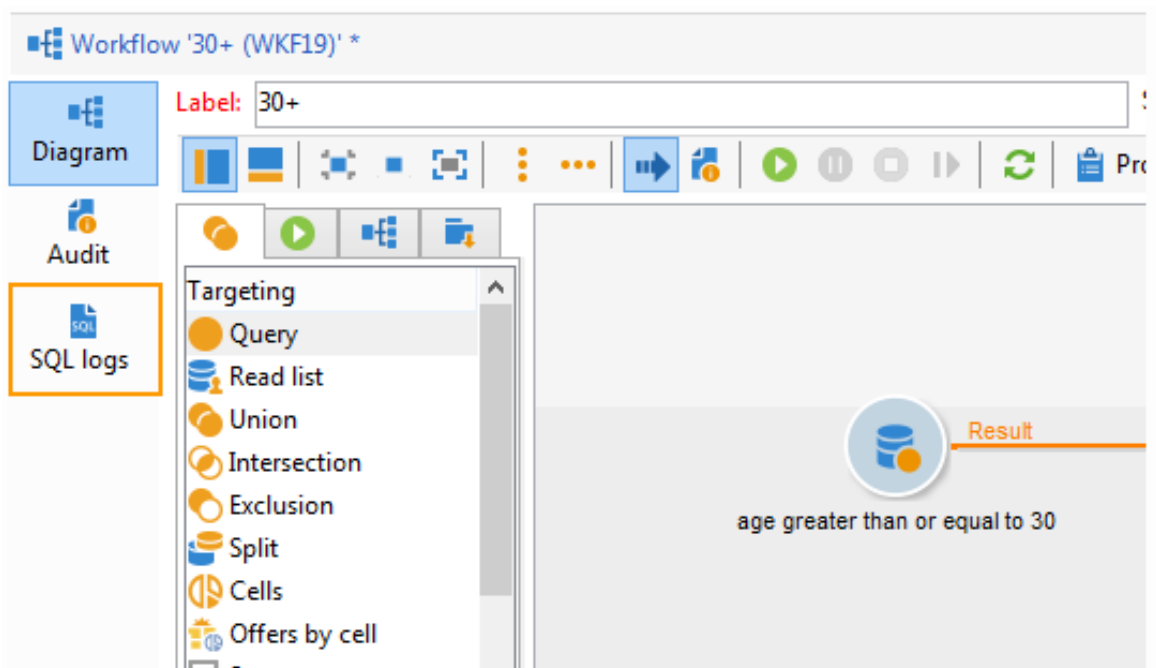
- **Execute in the engine**

  This option may only be used for de-bugging and never in production. When it is enabled, the workflow takes priority and all other workflows are stopped until this one is finished.

Error management

- **Troubleshooting**

  This field lets you define the actions to be taken if a workflow task has errors. There are two possible options:

  - **Stop the process**: the workflow is automatically paused. the workflow status changes to **Failed**. Once the issue is solved, restart the workflow using the **Start** or **Restart** buttons.
  - **Ignore**: the status of the task that triggered the error changes to **Failed**, but the workflow keeps the **Started** status. This configuration is relevant for recurring tasks: if the branch includes a scheduler, it will start normally next time the workflow is executed.

- **Consecutive errors**

  This field becomes available when the **Ignore** value is selected in the **In case of errors** field. You can specify the number of errors that can be ignored before the process is stopped. Once this number is reached, the workflow status changes to **Failed**. If the value of this field is 0, the workflow will never be stopped regardless of the number of errors.

- **Template**

  This field lets you select the notification template to be sent to the workflow supervisors when its status changes to **Failed**.

  The concerned operators will be notified by email, if there is an email address in their profile. To define workflow supervisors, go to the **Supervisor(s)** field of the properties (**General** tab).
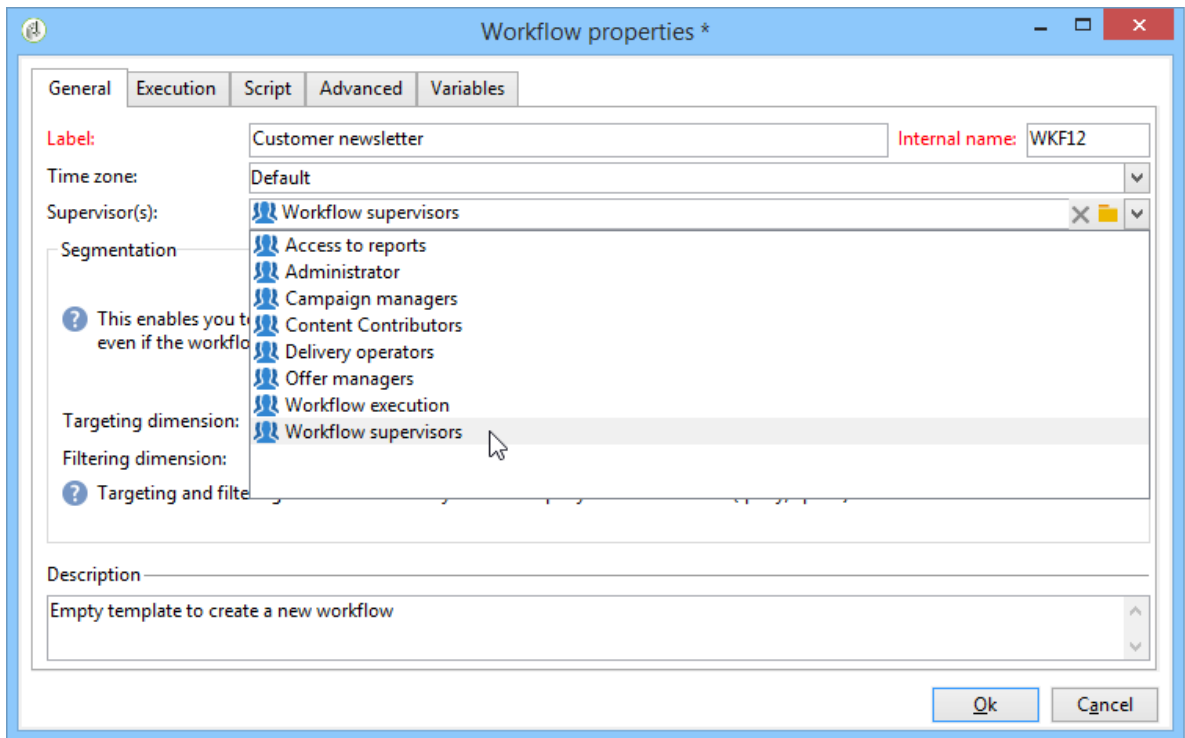
The **Notification to a workflow supervisor** default template includes a link for accessing the Adobe Campaign console via the Web so that the recipient can work on the issue once they are logged on.

To create a personalized template, go to **Administration>Campaign management>Technical deliveries and templates**.

2.5 Get started with workflows

Configure Campaign to leverage powerful marketing campaign automation capabilities.

You can set up:

- Workflows
- Recurring campaigns
- End-to-end validation cycle
- Alerts
- Automatic report sending
- Triggered events

Design and use workflows

Use Adobe Campaign workflows to improve the speed and scale of every aspect of your marketing campaigns, from creating segments and preparing messages to delivery.

Learn how to design workflows in these [end-to-end use cases](#).

Learn more about workflows user interface and execution in these pages:

- [Get started with workflows](#)
- [Workflow best practices](#)
- [Built-in technical workfows](#)
- [Monitor workflows execution](#)
- [Build an audience in a marketing campaign workflow](#)

Workflow activities

Learn more about the available workflow activities in [this section](#)

Workflow activities are grouped by category. The four activity categories are available:

- [Targeting activities](#): Query, Read list, Enrichment, Union, and more
- [Flow control activities](#): Scheduler, Fork, Alert, External signal, and more
- [Action activities](#): Cross-channel deliveries, Javascript code, CRM activities, Update aggregate, and more
- [Event activities](#): File transfer, Web download and more

Change data source activity

The **Change data source** activity allows you to change the data source of a workflow **Working table**. This provides more flexibility to manage data across different data sources such as FDA, FFDA and local database.

The **Working table** allows Adobe Campaign workflow to handle data and share data with the workflow activities.
By default, the **Working table** is created in the same database as the source of the data we query on.

For example, when querying the **Profiles** table, stored on the Cloud database, you will create a **Working table** on the same Cloud database.
To change this, you can add the **Change Data Source** activity to choose a different data source for your **Working table**.

Note that when using the **Change Data Source** activity, you will need to switch back to the Cloud database to continue the workflow execution.

To use the **Change Data Source** activity:

1. Create a workflow.
2. Query your targeted recipients with a **Query** activity.

   For more information on the **Query** activity, refer to [this page](#).

3. From the **Targeting** tab, add a **Change data source** activity and double-click it to select **Default data source**.

The working table, which contains the result of your query, is then moved to the default PostgreSQL database.

4. From the **Actions** tab, drag and drop a **JavaScript code** activity to perform unitary operations on the working table.

   For more information on the **JavaScript code** activity, refer to this page.

5. Add another **Change data source** activity to switch back to the Cloud database.

   Double-click your activity and select **Active FDA external account** then the corresponding external account.
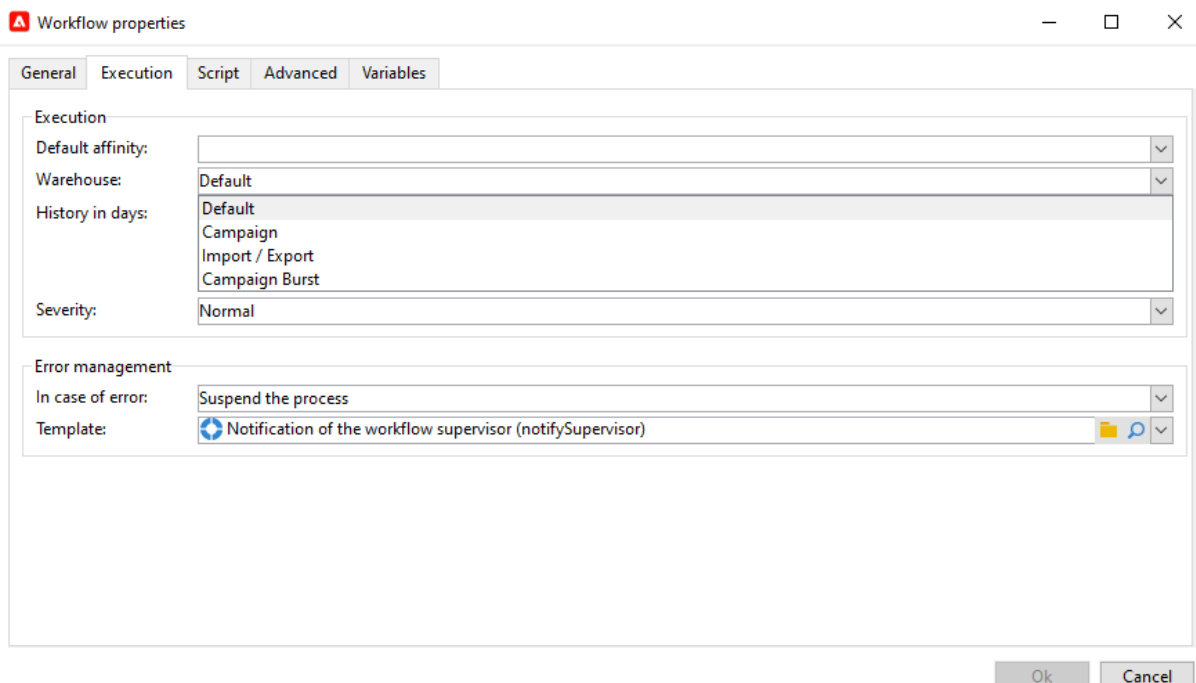
6. You can now start your workflow.

Manage virtual warehouses

After creating your workflow, you can access additional options with the **Properties** button for further configuration.

Learn more about **Workflow properties** in this page.

From the **Execution** tab of your workflow's **Properties,** you can choose to link your workflow to different warehouses and optimize your workload management. For more information on **Warehouses**, refer to the Snowflake documentation.

Depending on your workflow's purpose, you can choose between the following three warehouses from the **Warehouse** drop-down:

- **Default / Campaign**: set by default when creating a new workflow.

- **Import / Export**: should be set with import or export workflows to optimize your activities' performance.
- **Campaign Burst**: should be set with campaign or deliveries workflows to optimize your deliveries processing time.

NOTE

The **System** warehouse is only set for built-in workflows.

Set up recurring campaigns

Design recurring workflow and create a new delivery instance each time the workflow is executed. For example, if your workflow is designed to run once a week, that would result in 52 Deliveries after one year. This also means that logs will be separated by each delivery instance.

Learn how to create a recurring campaign in [this page](#)

Leverage trigger events

Use Campaign Transactional messaging to automate messages generated from events triggered from information systems. These transactional messages can be invoice, order confirmation, shipping confirmation, password change, product unavailability notification, account statement or website account creation for instance. These messages can be sent individually or in batch via email, SMS or push notifications.

Learn more about transactional messaging capabilities in in [this section](#).

Connect Adobe Campaign and Adobe Analytics to retrieve user actions and send near real-time personalized messages.

Learn how to integrate Campaign with other solutions in [this section](#)

Workflow end-to-end use cases

In this section, you will find various use cases leveraging Campaign workflows capabilities.

Deliveries

- [Send a birthday email](#)

  This use case presents how to plan sending a recurring email to a list of recipients on the day of their birthday.

- [Load delivery content](#)
  When your delivery content is available in an HTML file located on a remote server, you can easily load this content into Adobe Campaign deliveries.

- [Cross-channel delivery workflow](#)
  Learn how to build a cross-channel delivery workflow. The objective is to segment an audience from the recipients of your database into different groups and send an email to the first group and a SMS to the other.
- [Email enrichment with custom date fields](#)
  Learn how to send an email with custom data fields to profiles who celebrate their birthdays this month. The email will include a coupon valid one week before and after their birthday.

And these pages in Campaign v7 documentation:

- [Automat content creation, edition and publishing](#)
  Learn how to automate the creation and delivery of a content block with Campaign Content Management add-on.
- [A/B testing](#)
  Learn how to compare two email delivery contents via a targeting workflow. The message and the text are identical in both deliveries: only the layout changes. The targeted population is divided into three: two test groups and the remaining population. A different version of the delivery is sent to each test group.

Monitoring

- [Send a report to a list](#)
  Learn how to generate a monthly built-in Tracking indicators report in PDF format and send it to a list of Campaign operators.
- [Supervise your workflows](#)
  Learn how to create a workflow that lets you monitor the status of a set of workflows that are "paused", "stopped" or "with errors".
- [Send personalized alerts to operators](#)
  Learn how to send an alert to an operator that will contain the name of profiles who opened a newsletter but did not click the link it contains.

Data management

- [Coordinate data updates](#)
  Learn how to check that the update process has ended before executing another update operation. To do this, we will set up an instance variable, and let the workflow test if the instance is running to decide whether to continue the execution of the workflow and perform the update.
- [Create a summary list](#)
  Learn how to create a workflow which, after collecting files and following several enrichments, lets you create a summary list. The example is based on a list of contacts who made purchases in a store.
- [Enrich data](#)
  Learn how to send personalized deliveries to profiles who took part in the latest competition depending on their score.

- [Use aggregates](#)
  Learn how to identify the last recipients added to the database.
- [Quarterly list update using an incremental query](#)
  Learn how to use an incremental query to automatically update a recipient list.
- [Set up a recurring import workflow](#)
  Learn how to design a workflow that can be reused for importing profiles coming from a CRM in the Adobe Campaign database.

Targeting

- [Query the recipient table](#)
  Learn how to recover the names and emails of recipients whose email domain is "orange.co.uk" and who don't live in London.
- [Query delivery information](#)
  Learn how to define queries on delivery information to retrieve profile's behavior.
- [Compute aggregates](#)
  Learn how to count the number of profiles living in London, according to gender.
- [Query using a many-to-many-relationship](#)
  Learn how to find profiles not contacted during the last 7 days.
- [Call an instance variable in a query](#)
  Learn how to use an instance variable to compute dynamically the split percentage to apply on a population.